

**METHOD FOR PRODUCING AN AQUEOUS DISPERSION OF PARTICLES
COMPOSED OF A POLYMER AND A FINE-PARTICLE INORGANIC SOLID****Patent number:** WO03000760**Publication date:** 2003-01-03**Inventor:** XUE ZHIJIAN (DE); WIESE HARM (DE)**Applicant:** BASF AG (DE); XUE ZHIJIAN (DE); WIESE HARM (DE)**Classification:****- International:** C08F292/00**- european:** C08F292/00, C08F2/44, C08L51/10**Application number:** WO2002EP06545 20020614**Priority number(s):** DE20011029537 20010621**Also published as:**

EP1401902 (A1)

DE10129537 (A1)

Cited documents:

WO0118081

WO0129106

Abstract of WO03000760

The invention relates to a method for producing an aqueous dispersion of particles (composite particles) composed of a polymer and a fine-particle inorganic solid. According to said method, at least one ethylenically unsaturated monomer is dispersed in an aqueous medium and is polymerized using at least one radical polymerization initiator in the presence of at least one dispersed, fine-particle inorganic solid and at least one anionic, cationic, non-ionic dispersent, in accordance with the radical aqueous emulsion polymerization method. In said method, a) a stable aqueous dispersion of the inorganic solid(s) is used, said dispersion being characterized in that it has an initial concentration of ≥ 1 wt. %, (in relation to the aqueous dispersion of the inorganic solid(s)) and that one hour after production it still retains a dispersion of 90 wt. % of the original dispersed solid, the solid particles of said stable aqueous dispersion having a diameter ≤ 100 nm, b) the dispersed solid particles of the inorganic solid(s) exhibit an electrophoretic mobility that is not equal to zero in a standard aqueous potassium chloride solution, at a pH value that corresponds to the pH value of the aqueous reaction medium prior to the addition of the dispersent, c) at least one anionic, cationic, non-ionic dispersent is added to the aqueous solid particle dispersion prior to the addition of the ethylenically unsaturated monomers, d) between 0.01 and 30 wt. % of the total quantity of the monomer(s) is then added to the aqueous solid particle dispersion and is polymerized up to a conversion rate of at least 90 %, e) the residue of the monomer(s) is subsequently added under polymerization conditions, according to use.

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